

Missouri Assessment Program
Spring 2001

Mathematics
Released Items
Scoring Guide
Grade 10

Session: 1
Item No.: 3
Page No.: 4
Content Standard(s): 4.d Patterns and Relationships
Process Standard(s): 1.10

Exemplary Response:

- 7 (short rides)

AND

- $\$32.50 = \$15.00 + n(\$1.50) + n(\$1.00)$

OR

- $\$32.50 = \$15.00 + n(\$2.50)$

OR

- $\$17.50 = n(\$2.50)$

OR

- $17.50 = (1.5 + 1.0)n$

OR

- $17.50 = 2.5n$

OR

Other valid equation

Score Points:

2 points Exemplary response

1 point Correct process; error in computation
OR
Correct answer only

0 points Other

Session: 1
 Item No.: 11
 Page No.: 12–13
 Content Standard(s): 5.b Mathematical Systems and Number Theory
 Process Standard(s): 3.8

Exemplary Response:

•

ROUND-TRIP AIRFARE

$$\begin{array}{c}
 \text{Year} \\
 \begin{array}{ccc}
 & 1 & 2 & 3 \\
 \begin{array}{c} .10 \times \\ \left[\begin{array}{ccc} 963 & 895 & 1021 \\ 373 & 375 & 390 \\ 507 & 602 & 657 \end{array} \right]
 \end{array}
 \end{array}
 =
 \begin{array}{c}
 \text{Year} \\
 \begin{array}{ccc}
 & 1 & 2 & 3 \\
 \left[\begin{array}{ccc} 96.30 & 89.50 & 102.10 \\ 37.30 & 37.50 & 39.00 \\ 50.70 & 60.20 & 65.70 \end{array} \right]
 \end{array}
 \end{array}$$

ROUND-TRIP AIRFARE

10% TAX

$$\begin{array}{c}
 \text{Year} \\
 \begin{array}{ccc}
 & 1 & 2 & 3 \\
 \left[\begin{array}{ccc} 963 & 895 & 1021 \\ 373 & 375 & 390 \\ 507 & 602 & 657 \end{array} \right]
 \end{array}
 +
 \begin{array}{c}
 \text{Year} \\
 \begin{array}{ccc}
 & 1 & 2 & 3 \\
 \left[\begin{array}{ccc} 96.30 & 89.50 & 102.10 \\ 37.30 & 37.50 & 39.00 \\ 50.70 & 60.20 & 65.70 \end{array} \right]
 \end{array}
 =
 \end{array}$$

Region	Year	1	2	3
A		1059.30	984.50	1123.10
B		410.30	412.50	429.00
C		557.70	662.20	722.70

LODGING

ROUND-TRIP AIRFARE (including 10% Tax)

$$\begin{array}{c}
 \text{Year} \\
 \begin{array}{ccc}
 & 1 & 2 & 3 \\
 \begin{array}{c} \text{Region} \\ \left[\begin{array}{ccc} 992 & 998 & 1098 \\ 1021 & 1001 & 1124 \\ 679 & 742 & 863 \end{array} \right]
 \end{array}
 \end{array}
 +
 \begin{array}{c}
 \text{Year} \\
 \begin{array}{ccc}
 & 1 & 2 & 3 \\
 \begin{array}{c} \text{Region} \\ \left[\begin{array}{ccc} 1059.30 & 984.50 & 1123.10 \\ 410.30 & 412.50 & 429.00 \\ 557.70 & 662.20 & 722.70 \end{array} \right]
 \end{array}
 \end{array}
 +
 \end{array}$$

FOOD

TOTAL COST

$$\begin{array}{c}
 \text{Year} \\
 \begin{array}{ccc}
 & 1 & 2 & 3 \\
 \begin{array}{c} \text{Region} \\ \left[\begin{array}{ccc} 251 & 278 & 319 \\ 181 & 197 & 217 \\ 289 & 297 & 328 \end{array} \right]
 \end{array}
 \end{array}
 =
 \begin{array}{c}
 \text{Year} \\
 \begin{array}{ccc}
 & 1 & 2 & 3 \\
 \begin{array}{c} \text{Region} \\ \left[\begin{array}{ccc} 2302.30 & 2260.50 & 2540.10 \\ 1612.30 & 1610.50 & 1770.00 \\ 1525.70 & 1701.20 & 1913.70 \end{array} \right]
 \end{array}
 \end{array}$$

Session: 1
Item No.: 11
Page No.: 12–13
Content Standard(s): 5.b Mathematical Systems and Number Theory
Process Standard(s): 3.8

OR

Other valid process

AND

- Region B in years 1, 2, and 3. Region C in years 1 and 2.

OR

Other valid response

Score Points:

Apply the 4-point holistic rubric.

Session:	1
Item No.:	11
Page No.:	12–13
Content Standard(s):	5.b Mathematical Systems and Number Theory
Process Standard(s):	3.8

Score Points:

4 points	<p>The student's response fully addresses the performance event.</p> <p>The response:</p> <ul style="list-style-type: none">• demonstrates knowledge of the mathematical concepts and principles needed to complete the event.• communicates all process components that lead to an appropriate and systematic solution.• may have only minor flaws with no effect on the reasonableness of the solution.
3 points	<p>The student's response substantially addresses the performance event.</p> <p>The response:</p> <ul style="list-style-type: none">• demonstrates knowledge of the mathematical concepts and principles needed to complete the event.• communicates most process components that lead to an appropriate and systematic solution.• may have only minor flaws with minimal effect on the reasonableness of the solution.
2 points	<p>The student's response partially addresses the performance event.</p> <p>The response:</p> <ul style="list-style-type: none">• demonstrates a limited knowledge of the mathematical concepts and principles needed to complete the event.• communicates some process components that lead to an appropriate and systematic solution.• may have flaws or extraneous information that indicates some lack of understanding or confusion.
1 point	<p>The student's response minimally addresses the performance event.</p> <p>The response:</p> <ul style="list-style-type: none">• demonstrates a limited knowledge of the mathematical concepts and principles needed to complete the event.• communicates few or no process components that lead to an appropriate and systematic solution.• may have flaws or extraneous information that indicates a lack of understanding or confusion.
0 points	<p>Other—Responses not addressed by the Condition Codes:</p> <p>Example of "0":</p> <p>Work consists of copying the prompt information only.</p> <p>Work indicates no mathematical understanding of the task.</p>

Session: 2
Item No.: 10
Page No.: 11
Content Standard(s): 5.d Mathematical Systems and Number Theory
Process Standard(s): 1.6

Exemplary Response:

- 20 (minutes)

AND

- 4: $2 \times 2 = 2^2$
5: $5 = 5$
 $2 \times 2 \times 5 = 20$ (least common multiple)

OR

-

4: 1 2 3 (4) 5 6 7 (8) 9 10 11 (12) 13 14 15 (16) 17 18 19 (20)
5: 1 2 3 4 (5) 6 7 8 9 (10) 11 12 13 14 (15) 16 17 18 19 (20)

OR

Other valid process

Score Points:

2 points	Exemplary response
1 point	Correct process; error in computation OR Correct answer only
0 points	Other